SATEI J J TE COMMUNI CA'I']' ON ANTENNAS

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Satel 1 i te communi cati on antenna systems can be separated i nto the space segment and the ground segment.. 1 n the space segment, the antennas are used for ei ther deep space expl orat i on or Earth orbi ti ng appl i cation. 1 n the ground segment, the antenna systems can be categori zed i nto mobi l e and f ixed-st ati on appl i cati ons. The spacecraft general 1 y requi res i ts antennas to be l ow i n mass and smal l i n vol ume so that they can f it. appropri ate] y i nto the 1 aunch vehi cl e. The ground mobi l e uni ts al so requi re the antennas to be small in si ze.] n addi ti on, t hese antennas must be I ow i n cost so that they can be affordabl e to users. The ground f i xed stations), on the other hand, general ly prefer thei r antennas to be l arge i n si ze and abl e to handl e very high RF power.] n a] 1 these appl i cati ens, the most frequent l y used antenna type is the para - bol i c di sh whi ch i nvolves the technol ogi es of Cassegrain, shaped Cassegrai n, mul ti beam, cont ourbeam, mu] ti-frequency, frequency sel ective surface (FSS) , beam waveguide, deployabl e surface, meshed surface , etc . Other than the di sh t ype, the antennas that are sometimes used f or satel l i te communi cat i ons are the phased array, t he active phased array, the l ow-prof i 1 e pri nted mi crost rip array, the waveguide array, the hel i x, the horn, the l ens array, etc.

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